

alkylthio, C₁-C₆-haloalkylthio, C₁-C₆-alkylsulfinyl, C₁-C₆-haloalkylsulfinyl, C₁-C₆-alkylsulfonyl, C₁-C₆-haloalkylsulfonyl, C₁-C₆-alkylcarbonyl, C₁-C₆-haloalkylcarbonyl, C₁-C₆-alkoxycarbonyl or C₁-C₆-haloalkoxycarbonyl;

or

two radicals R⁶, which are linked to the same carbon, together form an -O-(CH₂)_m-O-, -O-(CH₂)_m-S-, -S-(CH₂)_m-S-, -O-(CH₂)_n- or -S-(CH₂)_n chain which may be substituted by one to three radicals from the following group :

halogen, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl or C₁-C₄-alkoxycarbonyl;

or

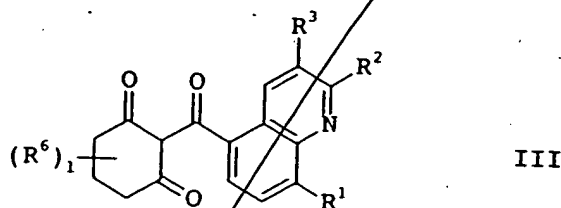
two radicals R⁶, which are linked to the same carbon, together form a -(CH₂)_p chain which may be interrupted by oxygen or sulfur and/or may be substituted by one to four radicals from the following group :

halogen, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl or C₁-C₄-alkoxycarbonyl ;

or

two radicals R⁶, which are linked to the same carbon, together with this carbon form a carbonyl group.

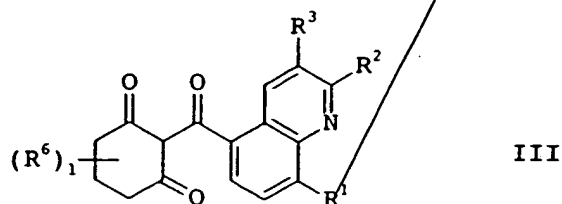
6. A process for preparing compounds of the formula I as claimed in claim 1 [claims 1 to 5] where R⁵ = halogen, which comprises reacting a cyclohexanedione derivative of the formula III,



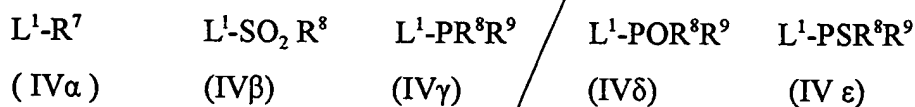
where the variables R¹ to R³, R⁶ and 1 are each as defined in claim 1 [claims 1 to 5], with a halogenating agent.

7. A process for preparing compounds of the formula I as claimed in claim 1 [claims 1 to 5] where

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 $R^5 = OR^7, OSO_2R^8, OPR^8R^9, OPOR^8R^9$ or $OPSR^8R^9$, which comprises reacting a cyclohexanedione derivative of the formula III,

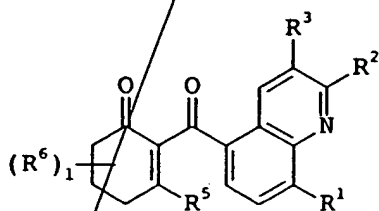


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 where the variables R^1 to R^3 , R^6 and 1 are each as defined in claim 1 [claims 1 to 5], with a compound of the formula IV α , IV β , IV γ , IV δ or IV ϵ ,

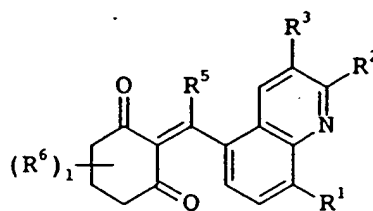


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 where the variables R^7 to R^9 are each as defined in claim 1 [claims 1 to 5] and L^1 is a nucleophilically replaceable leaving group.

8. A process for preparing compounds of the formula I as claimed in claim 1 [claims 1 to 5] where $R^5 = OR^7, SR^7, POR^8R^9, NR^{10}R^{11}, ONR^{11}R^{12}$, N-linked heterocyclyl or O-(N-linked heterocyclyl), which comprises reacting a compound of the formula I α (\equiv I where $R^5 = \text{halogen}, OSO_2R^8$),



and/or



I where $R^5 = \text{halogen or } OSO_2R^8$

where the variables R^1 to R^3 , R^6 and 1 are each as defined in claim 1 [claims 1 to 5], with a compound

of the formula $V\alpha, V\beta, V\gamma, V\delta, V\epsilon, V\eta, V\theta$,

HOR^7

($V\alpha$)

HSR^7

($V\beta$)

$HPOR^8R^9$

($V\gamma$)

$HNR^{10}R^{11}$

($V\delta$)

$HONR^{11}R^{12}$

($V\epsilon$)

H(N-linked
heterocyclyl)

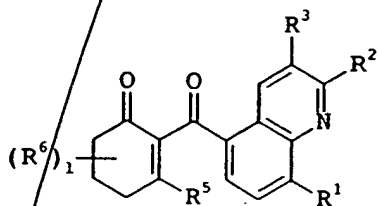
$V\eta$

H(ON-linked
heterocyclyl)

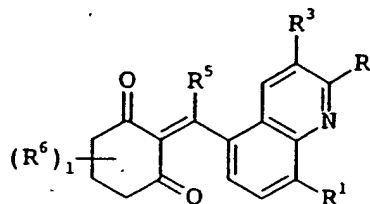
$V\theta$

where the variables R^7 to R^{12} are each as defined in claim 1 [claims 1 to 5], if appropriate in the presence of a base.

9. A process for preparing compounds of the formula I as claimed in claim 1 [claims 1, 2 or 5], where $R^5 = SOR^8, SO_2R^8$, which comprises reacting a compound of the formula I β (=I where $R^5 = SR^8$),



and/or



I where $R^5 = SR^8$

where the variables R^1 to R^8 and 1 are each as defined in claim 1 [claims 1, 2 or 5], with an oxidizing agent.

10. A composition, comprising a herbicidally effective amount of at least one cyclohexenon-equinolinoyl derivative of the formula I or an agriculturally useful salt of formula I as claimed in claim 1 [claims 1 to 5] and auxiliaries which are customarily used for formulating crop protection agents.
11. A process for preparing compositions as claimed in claim 10, which comprises mixing a

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herbicidally effective amount of at least one cyclohexenonequinolinoyl derivative of the formula I or an agriculturally useful salt of formula I [as claimed in claims 1 to 5] and auxiliaries which are customarily used for formulating crop protection agents.

12. A method for controlling undesirable vegetation, which comprises allowing a herbicidally effective amount of at least one cyclohexenonequinolinoyl derivative of the formula I or an agriculturally useful salt of formula I as claimed in claim 1 [claims 1 to 5] to act on plants, their habitat and/or on seeds.

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13. The use of cyclohexenonequinolinoyl derivatives of the formula I or their agriculturally useful salts as claimed in claim 1 [claims 1 to 5] as herbicides. */C*

REMARKS

The claims have been amended to eliminate multiple dependency and to put them in better form for U.S. filing. No new matter is included. A clean copy of the claims is attached.

Favorable action is solicited.

Respectfully submitted,

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